



Namibian Ports Authority (Namport)

Capacity Analysis of Port of Walvis Bay:
Berths 4 to 8

Background

Project Duration: December 2009

The Namibian Ports Authority (Namport) has been contemplating the modernisation of port handling equipment in a drive to enhance capacity and increase materials handling efficiency in the Port of Walvis Bay.

To this end RCE Consultants (Pty) Ltd have been appointed to analyse and advise Namport on the structural capacity of berths 4 to 8 to accommodate new mobile cranes with 260t outrigger reactions on the quay.

Key Features

The objectives of the analysis were to:

- Calculate both load bearing capacity and structural capacity of the steel tubular and concrete sheet piles;
- Check both moment and shear capacity of the deck beams and identify areas where outriggers could be accommodated;
- Calculate the punching shear capacity of the deck slab to accommodate 260t mobile crane outrigger reactions;
- Compile a report reflecting the outcome of the analysis, including recommendations, to Namport.

Services Provided

The professional services provided to Namport included:

- Sourcing and evaluating applicable design information such as design calculations and “as-built” drawings for the structures;
- Analysis and evaluation of the capacity of the foundations for accommodating of the enhanced loading;
- Modelling of the deck for the purpose of analysing the enhanced loading;
- Evaluation of the structural capacity under the proposed loading;
- Compilation of a report reflecting the results of the analysis, indicating the potential and limitations for enhanced loading.

Outcome

RCE Consultants provided Namport with a report reflecting the outcome of the analysis of the structural capacity of berths 4 to 8 to accommodate new mobile cranes with 260t

outrigger reactions, as well as applicable recommendations. This enabled Namport to make informed technical decisions going forward.